

Grain Elevators in Kansas

New Source Performance Standard (NSPS) Guidance Document

What is 40 CFR Part 60 Subpart DD?

The new source performance standards (NSPS) for grain elevators were established by the U.S. Environmental Protection Agency on August 3, 1978. These standards are located in the code of federal regulations (CFR), Title 40 (environment), part 60, subpart DD (written as “40 CFR 60 Subpart DD”). These regulations define the emission limits for a new source, in this case, grain elevators, and the requirements to maintain compliance with the standard.

Does the NSPS standard for grain elevators apply to my facility?

The standards of performance for grain elevators (40 CFR Subpart DD) apply to each affected facility (i.e., each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar unloading station, railcar loading station, grain dryer, and all grain handling operations) at any grain terminal elevator or any grain storage elevator. Therefore, if your facility meets the definition of a grain terminal elevator or grain storage elevator as defined in 40 CFR Part 60 Subpart DD, and it starts construction, modification, or reconstruction after August 3, 1978, then, yes, this standard applies to your facility. The *Grain Elevator NSPS Flow Chart* on page 3 will help determine your applicability to this standard.

Definitions within the standard are very exact. For example, a grain terminal elevator means “any grain elevator which has a permanent storage capacity of more than 88,100 m³ (ca. 2.5 million U.S. bushels), except those located at animal food manufacturers, pet food manufacturers, cereal manufacturers, breweries, and livestock feedlots.” Therefore, even if your facility meets the definition of a grain elevator, it is not required to comply with these standards if the elevator is located at an animal food manufacturer, pet food manufacturer, cereal manufacturer, brewery, or livestock feedlot. If your facility is a grain storage elevator, which means “any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 35,200 m³ (ca. 1 million bushels),” you are also required to comply with this standard.

What are my requirements under this standard?

Since 40 CFR Part 60 Subpart DD is a new source performance standard, it obviously establishes standard emission rates for grain elevator sources. The standards for particulate matter, opacity, and air ventilation rates are located in 40 CFR 60.302.

You also have testing requirements to demonstrate you are meeting your emissions standards. Testing requirements under this standard are located in 40 CFR 60.303, but also refer back to 40 CFR 60.11, compliance with standards and maintenance requirements. Specific test methods for Method 2 – Determination of stack gas velocity and volumetric flow rate, Method 5 – Determination of particulate matter from stationary sources, and Method 9 – Visual determination of the opacity of emissions from stationary sources, are located in Appendix A of 40 CFR 60.

Now that I have done the tests, what do I do with the information to prove my facility is in compliance?

Notification and recordkeeping requirements are listed in 40 CFR 60.7. The Kansas Department of Health and Environment (KDHE), Bureau of Air (BOA), has the authority to conduct inspections at permitted facilities. You are required to keep records of notification and compliance reports, performance test results, and any other data on hand to show KDHE representatives.

Do I need an air operating permit for my facility?

Whether you are or are not subject to the new source standards for grain elevators, you are required to apply for a Class I air operating permit from KDHE if potential-to-emit (PTE) calculations show your facility exceeds 100 tons per year for particulate matter fewer than 10 microns in size (PM-10). However, you can apply for a Class II air operating permit if you are willing to accept federally-enforceable limitations to your operations (e.g., control equipment such as baghouses, cyclones, or oil suppressants, or limitations in the amount of grain you process). The *Grain Elevator PTE spreadsheet* incorporates the efficiency of control equipment and throughput limitations to see if you would fall below the PM-10 threshold with these limitations.

How do I calculate the PTE for my facility?

There is a flow chart (pages 4 and 5) and the *Grain Elevator PTE spreadsheet* available to help you calculate your PTE for PM and PM-10. These values are usually in tons/year. A facility's PTE is used to determine the type of air construction permit to issue – a construction permit or a construction approval – and to determine if the source is a major source (i.e., the facility has a PTE of 100 tons or more per year of PM 10) requiring a Class I air operating permit. The threshold limits for construction permits and approvals and air operating permits are shown on the *PTE Threshold Limits Table* on page 3.

The *Grain Elevator PTE spreadsheet* uses facility-specific information and calculates emissions based on emissions factors associated with the grain-handling process. These emissions factors can be found in the EPA AP 42, Volume I, Fifth Edition, on the EPA Web site at www.epa.gov/ttnchie1/ap42/. Emissions factors associated with grain elevators and processes are in section 9.9.1 of this document. The Kansas Small Business Environmental Assistance Program can assist you in this calculation.

Am I a country elevator or terminal elevator?

As mentioned above, a grain terminal elevator has permanent storage capacity of MORE than 2.5 million bushels. When determining a facility's potential to emit pollutants (and in the case of a grain elevator, the primary pollutant of concern is particulate matter), EPA looks at a facility's design capability, rather than its operational status. Even though a facility may only be operated eight hours a day, five days a week, its design allows for operations 24 hours a day, 365 days a year. Consequently, PTE calculations are based on the worst-case scenario of continuous operations, UNLESS there are inherent physical limitations and operational design features which restrict potential emissions.

In a memorandum dated November 14, 1995 (www.epa.gov/ttn/oarpg/t5/memoranda/grainfnl.pdf), EPA issued a clarification on the PTE calculation for grain-handling facilities. In this memorandum, EPA recognized that "country elevators are clearly constrained in their operation, to the extent that they are designed to service, and as a matter of operation only serve, a limited geographic area from which a finite amount of grain can be grown and harvested." This memorandum also defined a country elevator as "any grain elevator that receives more than 50 percent of its grain from farmers in the immediate vicinity during the harvest season."

How does being a terminal/country elevator affect the PTE calculations for my facility?

Grain terminal elevators do not have the inherent operational and geographical constraints identified for country grain elevators. Therefore, PTE calculations for terminal elevators are based on their ability to process grain in bushels per hour (bu/hr) and use a full year (8,670 hours) to determine how much grain is processed in a year.

The EPA does not recommend the same PTE calculations for country elevators, given their inherent operational and geographical constraints, and recommends PTE calculations based upon a more realistic estimate of the maximum amount of grain that could be received during a record crop year in the geographic area served by the elevator. Therefore, PTE calculations for country elevators are based on the highest amount of grain received during the previous five years, multiplied times an adjustment factor of 1.2. The EPA believes this process constitutes a realistic upper bound on the amount of grain a country elevator could receive.

How do I submit an application to get approval or a permit to construct/modify my facility?

If you construct, modify, or reconstruct a grain elevator, you may need to contact the KDHE BAR for a construction permit or approval. The table above shows the PTE thresholds that trigger the requirement for construction permits or approvals. If your facility's PTE is above these thresholds, you must apply for a construction permit or approval through KDHE BAR. Forms and applications can be found on the KDHE Web site at <http://www.kdheks.gov/air-permit/download.html>. The *Grain Elevator PTE Flow Chart* on pages 4 and 5 indicates which forms should accompany your permit application. Again, the Kansas Small Business Environmental Assistance Program can assist you in completing the proper forms for submission to KDHE.

Contact Information

KDHE Bureau of Air
1000 SW Jackson, Suite 310
Topeka, KS 66612-1366
Phone: 785-296-1570

**US EPA Region 7 - Air Permitting/
Compliance Branch**
901 N. 5th Street
Kansas City, KS 66101
Phone: 913-551-7003

**K-State Small Business
Environmental Assistance Program**
133 Ward Hall
Manhattan, KS 66506-2508
Phone: 800-578-8898
www.sbeap.org

While every effort was made to accurately reflect the requirements of 40 CFR Part 60, Subpart DD, if any conflicts appear in this guidance document, the federal and state regulations will take precedence.

Published November 2009

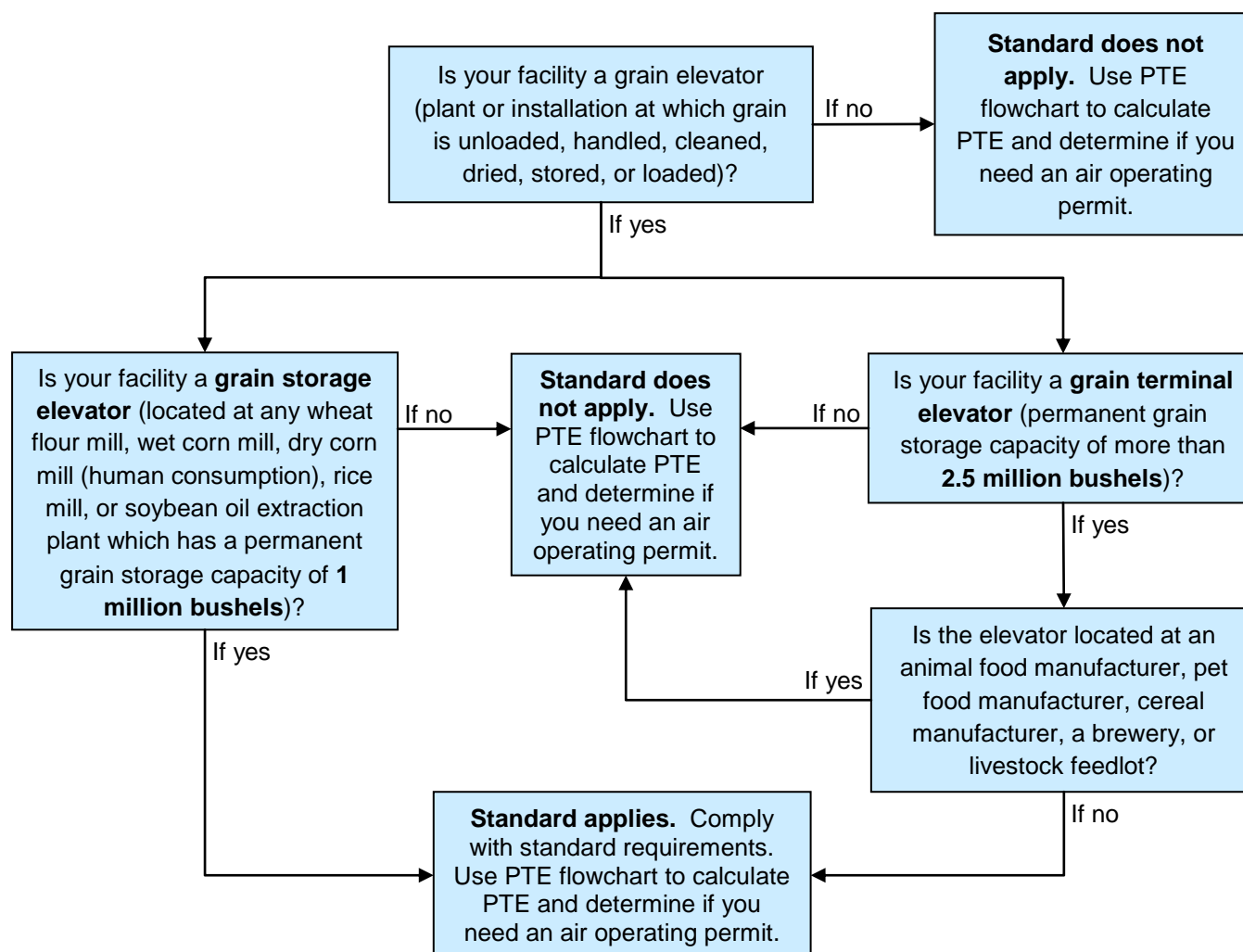


Potential-to-Emit (PTE) Threshold Limits Table

PTE Threshold Limits					
Pollutant	Construction Permit		Construction Approval		Class I Air Operating Permit
	Non-agriculture	Agriculture-related	Non-agriculture	Agriculture-related	
PM	> 25 t/yr OR	>100 t/yr (including, but not limited to, PM10)	> 5 pounds/hr OR	> 5 pounds/hr (including, but not limited to, PM10)	N/A
PM10	>15 t/yr	Included above	> 2 pounds /hr	Included above	> 100 t/yr

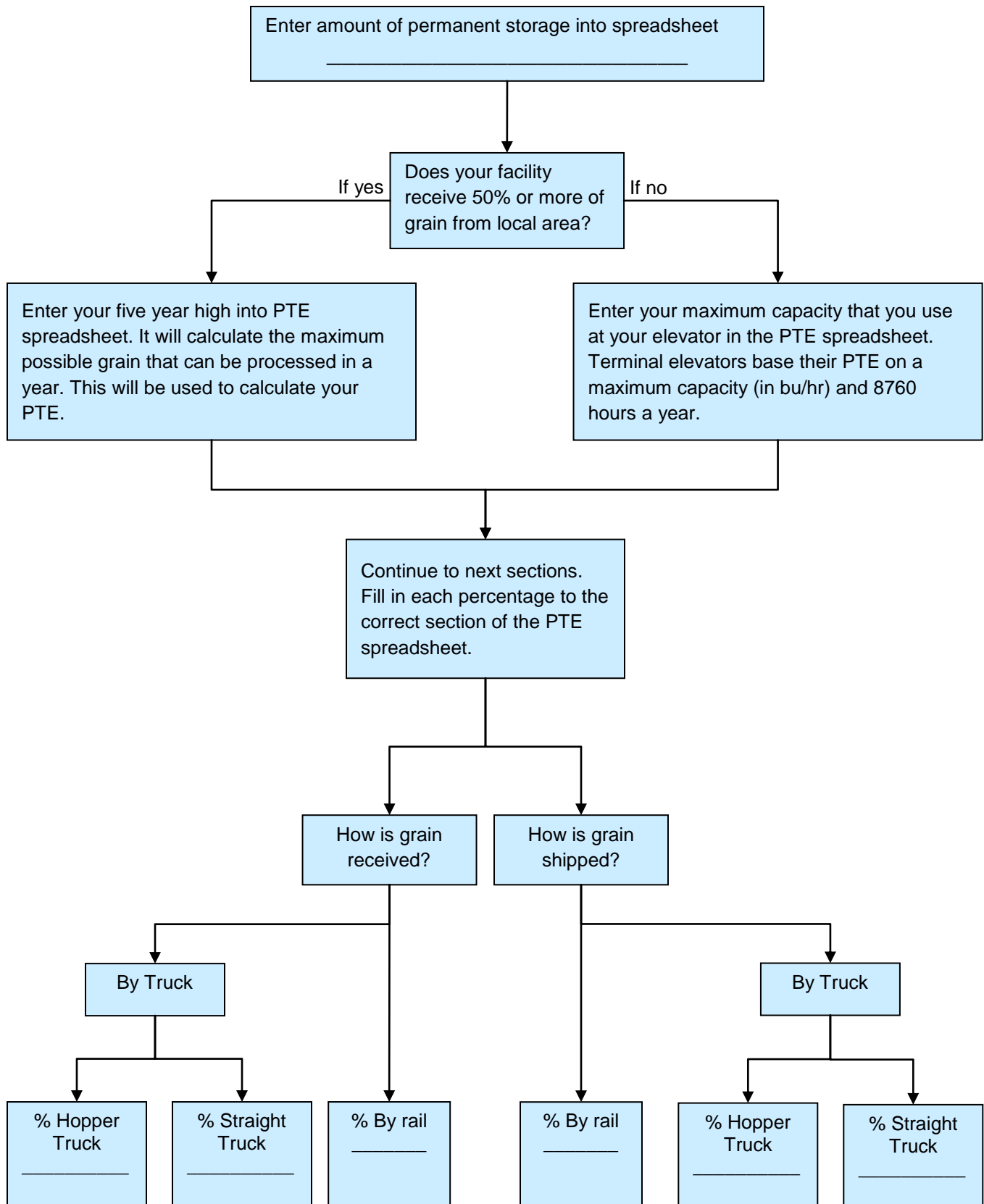
Grain Elevator NSPS Flow Chart

Use this flow chart to determine whether your facility is subject to the requirements of the new source performance standards for grain elevators (40 CFR Part 60 Subpart DD).

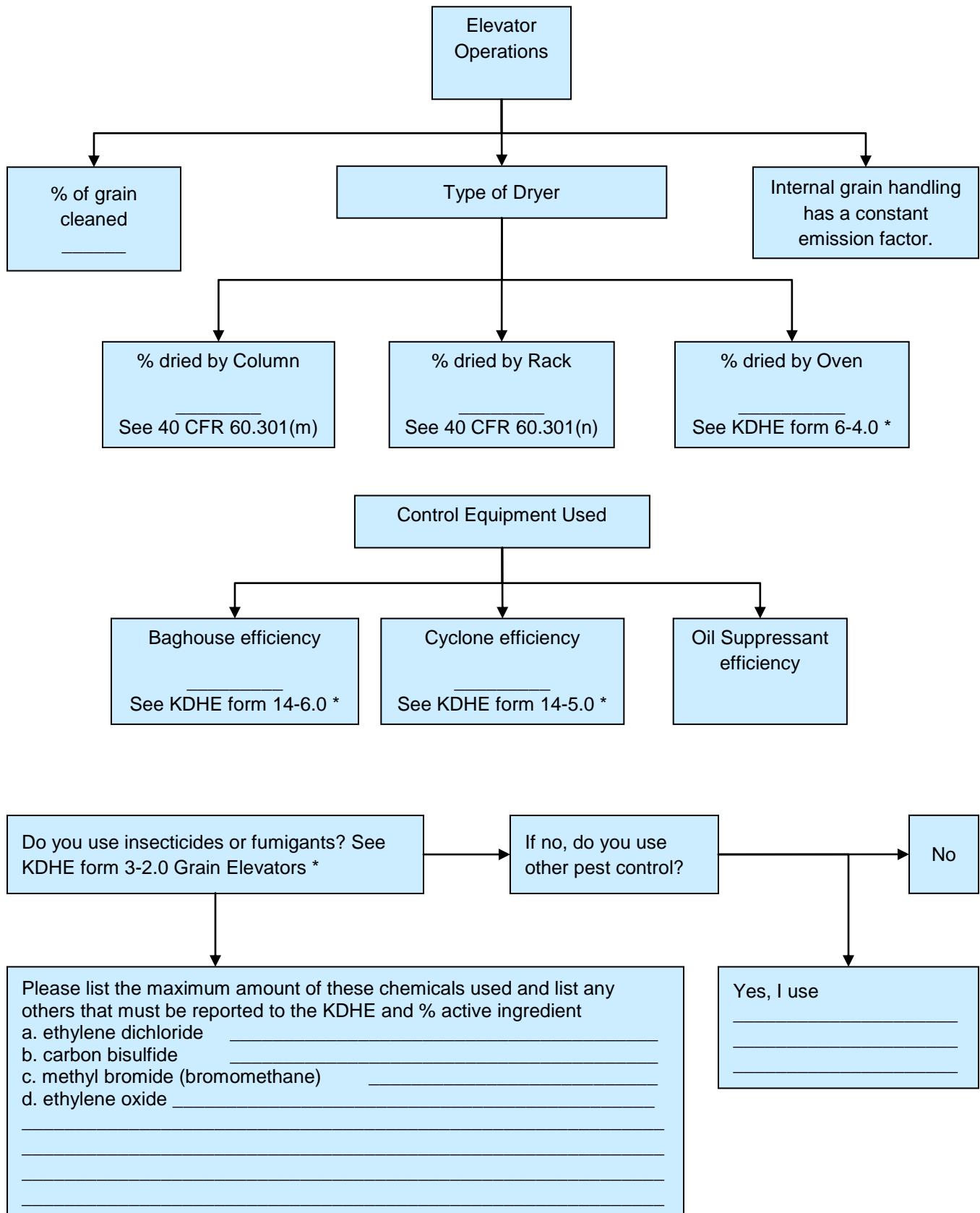


Grain Elevator PTE Flow Chart

Use this flow chart in conjunction with the PTE spreadsheet for grain elevators. This will help you know what information to enter into the spreadsheet and what forms you will need.



Grain Elevator PTE flow chart (continued)



* www.kdheks.gov/air-permit/download.html